

ATTY, DOCKET NO. 2236.0030000

APPLICATION NO. 10/761,277

DATE CONSIDERED

Page 1 of 6

FIRST NAMED INVENTOR

Seung-Man YANG **INFORMATION DISCLOSURE STATEMENT** FILING DATE **ART UNIT** January 22, 2004 1762 **U.S. PATENT DOCUMENTS** EXAMINER INITIAL DOCUMENT NUMBER DATE NAME **CLASS SUB-CLASS FILING DATE** AA1 6,375,870 B1 04/2002 Visovsky et al. AB AC AD ΑE AF AG AH ΑI ΑJ FOREIGN PATENT DOCUMENTS **EXAMINER** INITIAL **DOCUMENT NUMBER** DATE COUNTRY CLASS SUB-CLASS TRANSLATION ΑK No Yes AL No Yes AM No OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.) Aizenberg, J. et al., "Patterned Colloidal Deposition Controlled by Electrostatic and Capillary AN1 Forces," Physical Review Letters, Vol. 84, No. 13, pp. 2997-3000, The American Physical Society (2000). Bechinger, C. et al., "Submicron metal oxide structures by a sol-gel process on patterned A01 substrates," Thin Solid Films, Vol. 366, pp. 135-138, Elsevier Science S.A. (2000). Chen, W. and H. Ahmed, "Fabrication of 5-7 nm wide etched lines in silicon using 100 keV AP1 electron-beam lithography and polymethylmethacrylate resist," Applied Physics Letters, Vol. 62, No. 13, pp. 1499-1501, The American Institute of Physics (1993). Chou, S.Y. et al., "Imprint Lithography with 25-Nanometer Resolution," Science, Vol. 272, pp. 85-87, The American Institution for the Advancement of Science (1996). AQ1 Dimitrov, A.S. and K. Nagayama, "Continuous Convective Assembling of Fine Particles into Two-Dimensional Arrays on Solid Surfaces," *Langmuir: The ACS Journal of Surfaces and Colloids*, Vol. 12, Np. 5, pp. 1303-1311, The American Chemical Society (1996). AR1

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

EXAMINER

				· · · · · · · · · · · · · · · · · · ·			Page 2 of 6
				ATTY. DOCKET NO. 2236.0030000		ICATION NO 51,277	
ļ. •		FORM PTO-1449		FIRST NAMED INVENTOR		1,211	
INFO	ANATION	I DISCLOSURE STATEM	ENT	Seung-Man YANG			
1141 01	(WATIO	O DIOCEOGORE GIATEM		FILING DATE January 22, 2004	ART 1762		
			U.S. PAT	ENT DOCUMENTS	11702		
EXAMINER	T						
INITIAL	-	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD	- 		- - - - - - - - - - 			<u> </u>
							<u> </u>
<u> </u>	AE						
	AF						
	AG						
	AH						
	Al						
	AJ		·				
EVAMINED		F	OREIGN P	ATENT DOCUMENTS			· · · · · · · · · · · · · · · · · · ·
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AK						Yes No
	AL						Yes
	АМ						Yes No
/		OTHER DOCUMENTS	(Including	Author, Title, Date, Perti	inent Pages,	etc.)	
M	AN2	Frigo, N.J., "Passive C	ptical Netw	vorks," Optics & Photonics	News, pp. 24	-29 (1996).	
	AO2	Hagleitner, C. et al., "Spp. 293-296, Nature P	smart single ublishing G	e-chip gas sensor microsys roup (2001).	stem," <i>Nature</i> ,	Vol. 414, is:	sue No. 6861
	AP2	Heegr, A.J. and J. Lon	g Jr., "Conj	ugating polymers," Optics	& Photonics I	Ve <i>ws</i> , pp. 24	l-30 (1996).
	AQ2	Hulteen, J.C. et al., "N Cluster Arrays,"Journa Chemical Society (199	anosphere I of Physica 9).	Lithography: Size-Tunable al Chemistry B, Vol. 103, N	Silver Nanop lo. 19, pp. 385	erticle and S 54-3863, The	Surface e American
V	AR2	Kim, SR. et al., "Fabr Topography and Tailor Wiley-VCH Verlag Gm	ication of P ed Surface bH & Co. (0	olymeric Substrates with V Chemistry," Advanced Ma October 2002).	Vell-Defined Natorials, Vol. 1	lanometer-S 4, No. 20, p	icale b. 1468-1472,
EXAMINER	\mathcal{U}				DATE CO	NSIDERED	925/05
EXAMINER: Ini	tial if refer	ence considered, whether or r	not citation is i	n conformance with MPEP 609.	Draw line through	n citation if not i	11 1
and not conside 346764 1.DOC	<u>red. Indu</u>	de copy of this form with next	communicatio	n to Applicant.			

							Page 3 of 6
				ATTY. DOCKET NO.		ICATION NO	•
-		FORM PTO-1449		2236.0030000 FIRST NAMED INVENTO		61,277	
1			ENT	Seung-Man YANG			
INFOR	MATION	DISCLOSURE STATEM	<u>CIVI</u>	FILING DATE	ART		
			U.S. PAT	January 22, 2004 ENT DOCUMENTS	1762		
EXAMINER				T			
INITIAL	+	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	АН						
	Al						
	AJ						
EVALUED			OREIGN P	ATENT DOCUMENTS			
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AK						Yes No
	AL						Yes No
	АМ						Yes No
		OTHER DOCUMENTS	(Including	Author, Title, Date, Pe	rtinent Pages,	etc.)	
h/	AN3	Alkoxide Complexes,"	Journal of to	Observation of Aldehyd he American Chemical S published on web Janua	Society, Vol. 124	Rhodium-Ary 4, No. 8, pp.	/l and - 1674-1679,
	AO3	be formed through a c	ombination etching," App	Features of gold having of stamping with an elasplied Physics Letters, Vol. 3).	stomeric stamp	and an alkan	ethiol "ink"
	AP3	Li, H. et al., "High-Res 347-349, The America	olution Con an Chemical	tact Printing with Dendri Society (published on w	mers," <i>Nano Le</i> veb February 20	tters, Vol. 2, 102).	No. 4, pp.
	AQ3	I Patterning," <i>Lanamuir</i> ,	: The ACS J	ting: A Route to Sub-50- lournal of Surfaces and published on web Janua	Colloids Vol 1:	nical and Bio 9, No. 6, pp.	ological 1963-1965,
	AR3	Mikrajuddin, F.I. and k and Pores by Colloida 930-933, Wiley-VCH \	Templating	, "Single Route for Produ g and Over-Sputtering," H (June 2002).	ucing Organized Advanced Mate	l Metallic Do rials, Vol. 14	mes, Dots, , No. 12, pp.
EXAMINER	. 1. 1. 2.					NSIDERED 0	125/05
EXAMINER: Init	ial if refer	ence considered, whether or	not citation is in	conformance with MPEP 609	9. Draw line through	h citation if not i	n conformance
346764 1.DOC	ea. Inaui	de copy of this form with next	communication	to Applicant.			

								Page 4 of 6
				ATTY, DOCKET N 2236.0030000			ICATION NO 31,277	
r E		FORM PTO-1449		FIRST NAMED INV Seung-Man YANG				
INFOR	MATIO	N DISCLOSURE STATEM	<u>ENT</u>	FILING DATE		ART		
			II S PAT	January 22, 2004 ENT DOCUMENT	·s	1762		
EXAMINER INITIAL	T -	DOCUMENT NUMBER	DATE	NAME	<u>. </u>	CLASS	SUB-CLASS	FILING DATE
	AA				•			
	AB							
	AC							
	AD							
	AE							·
	AF							
	AG							
	AH							
	Al							
	AJ		OBEIGN	ATENT COCUME	NTO		<u> </u>	
EXAMINER	1			ATENT DOCUME	:N15			<u> </u>
INITIAL	AK	DOCUMENT NUMBER	DATE	COUNTRY		CLASS	SUB-CLASS	Yes
	AL							No Yes
·-····	AM						- 3	No Yes
0 /		OTHER DOCUMENTS	(Including	Author, Title, Da	te, Pertinent	Pages,	etc.)	No.
YY	AN4	Odom, T.W. et al., "Im Langmuir: The ACS Jo American Chemical So	ournal of Su	ırfaces and Colloid	ls, Vol. 18, No	/ Using (b. 13, pp	Composite S 5314-5320	tamps," , The
	AO4	Schmid, H. and B. Mic Lithography," <i>Macromo</i> (2000).	hel, "Siloxa olecules, Vo	ne Polymers for H ol. 33, No. 8, pp. 3	igh-Resolution 042-3049, The	n, High-A	Accuracy So can Chemica	ft al Society
	AP4	Sprenger, M. et al., "H Vol. 15, No. 9, pp. 703	ierarchical l -706, Wiley	Pattern Replication -VCH Verlag Gmb	n by Polymer I oH & Co. (May	Demixin 2003).	g," <i>Advance</i>	d Materials,
	AQ4	Velev, O.D. et al., "A C Vol. 287, No. 5461, pp (2000).	Class of Mic . 2240-224	rostructured Partic 3, The American A	cles Through (ssociation for	Colloidal the Adv	Crystallizati vancement o	on," <i>Science</i> , f Science
	AR4	Werts, M.H.V. et al., "N Nanoparticles by Elect American Chemical Sc	ron Beam L	ithography. Nani	o Letters, Vol.	odgett F 2, No.	ilms of Gold I, pp. 43-47,	The
EXAMINER	_				C	ATE CO	NSIDERED	9/25/05
EXAMINER: Init	ial if refer	ence considered, whether or r	not citation is i	n conformance with MF	PEP 609. Draw li	ne through	n citation if not i	n conformance
and not considered 346764 1.DOC	ed. Indu	de copy of this form with next	communicatio	n to Applicant.				

							Page 5 of 6
				ATTY. DOCKET NO.		ICATION NO	
•	F	ORM PTO-1449		2236.0030000 FIRST NAMED INVENTOR	10/76	1,2//	
INFORM	ΛΑΤΙΩΝ	I DISCLOSURE STATEME	:NT	Seung-Man YANG			·
iii Oili	VIA TION	DISOLOGONE STATEME	<u></u>	FILING DATE January 22, 2004	1762	JNIT	
		· · · · · · · · · · · · · · · · · · ·	U.S. PAT	ENT DOCUMENTS	11102		
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
·	AC			·			·
	AD						
	AE						
	AF						
	AG	•					
	АН						
	Al						
·	AJ						
EXAMINER		F(OREIGN PA	ATENT DOCUMENTS			
INITIAL	<u> </u>	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION Yes
	AK		_		<u> </u>		No Yes
	AL						No Yes
	AM	OTHER DOCUMENTS	(Including	Author, Title, Date, Pertiner	at Pages	oto \	No No
01		OTTIER DOGGINERTS	(meraamg	Author, Title, Date, Pertifier	it rages,	eic.)	
M	AN5	Winzer, M. et al., "Fabr Applied Physics A: Mai	rication of n terials Scien	ano-dot- and nano-ring-arrays nce & <i>Processing</i> , Vol. 63, pp	s by nanos . 617-619,	phere lithog Springer-Ve	raphy," erlag (1996).
	AO5	microspheres as lense:	s for project	Fabrication of arrays of two-d tion photolithography," Applie titute of Physics (2001).	imensiona d Physics	l micropatter Letters, Vol.	ns using 78, No. 16,
	AP5		^f Vacuum S	nsity quantized magnetic disk cience and Technology B, Vo			
	AQ5	Xia, Y. et al., "Non-Pho Microcontact Printing," 4033-4038, The Americ	Langmuir:	hic Methods for Fabrication of The ACS Journal of Surfaces cal Society (1996).	Elastome and Collo	ric Stamps f ids, Vol. 12,	or Use in No. 16, pp.
	AR5	Xia, Y. and G.M. White Wiley-VCH Verlag Gmb	sides, "Soff bH (1998).	t Lithography," <i>Angewandte C</i>	îhemie, Vo	ol. 37, No. 5,	pp. 551-575,
EXAMINER		The		•	DATE CO	NSIDERED	9/25/05
EXAMINER: Initia	al if refere	ence considered, whether or n	ot citation is in	n conformance with MPEP 609. Draw	v line through	citation if not i	

EXAMINER AG AH AI AJ FOREIGN PATENT DOCUMENT NUMBER AG AH AI AJ AN AN AN AN AN AN AN AN AN	MED INVENTOR TO YANG TE ART UNIT 1762
INFORMATION DISCLOSURE STATEMENT Seung-Man FILING DAT January 22, U.S. PATENT DOCU EXAMINER INITIAL AA AB AC AD AE AF AG AH AI AJ FOREIGN PATENT DOC EXAMINER INITIAL AK AL AL AM OTHER DOCUMENT NUMBER ANG ANG ANG ANG OTHER DOCUMENTS (Including Author, Tit wafers," Chemical Communications, Vol. 24, p (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	TYANG TE ART UNIT 1, 2004 1762 JMENTS
EXAMINER INITIAL AA AB AC AC AD AF AG AH AI AJ FOREIGN PATENT DOCU EXAMINER INITIAL AK AL AN AN AC AC AC AD AC AC AC AC AC AC	2, 2004 1762 JMENTS
EXAMINER INITIAL AA AB AC AD AC AF AG AH AI AJ AJ AC EXAMINER INITIAL AN AC AC AC AC AC AC AC AC AC	JMENTS
AA AB AB AC AD AE AF AG AH AI AJ EXAMINER INITIAL AK AL AM AM OTHER DOCUMENTS (Including Author, Tit wafers," Chemical Communications, Vol. 24, p. (2000). AO6 Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	CLASS SUB-CLASS FILING DAT
AB AC AD AE AF AG AH AI AI AJ FOREIGN PATENT DOC EXAMINER INITIAL AK AL AM OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p. (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	
AC AD AE AF AG AH AI AJ FOREIGN PATENT DOC EXAMINER INITIAL AK AL AM OTHER DOCUMENT NUMBER ANG ANG OTHER DOCUMENTS (Including Author, Tit wafers," Chemical Communications, Vol. 24, p. (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communications, Vol. 24, p. (2000). Yi, GR. and SM. Yang, "Microstructures of	
AD AE AF AG AH AI AJ FOREIGN PATENT DOC EXAMINER INITIAL DOCUMENT NUMBER AK AL AM OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p. (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	
AE AF AG AH AI AJ FOREIGN PATENT DOC EXAMINER INITIAL AK AL AM OTHER DOCUMENT NUMBER DATE COUNT AN6 OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	
AF AG AH AI AJ FOREIGN PATENT DOC EXAMINER INITIAL AK AL AM OTHER DOCUMENT NUMBER ANA OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	
AG AH AI AJ FOREIGN PATENT DOC EXAMINER INITIAL DOCUMENT NUMBER DATE COUNT AK AL AM OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	
FOREIGN PATENT DOC EXAMINER INITIAL DOCUMENT NUMBER DATE COUNT AK AL AM OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	
FOREIGN PATENT DOC EXAMINER INITIAL DOCUMENT NUMBER DATE COUNT AK AL AM OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p. (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	
FOREIGN PATENT DOC EXAMINER INITIAL DOCUMENT NUMBER DATE COUNT AK AL AM OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	
FOREIGN PATENT DOC EXAMINER INITIAL DOCUMENT NUMBER DATE COUNT AK AL AM OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	
AK AL AM OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	DCUMENTS
AK AL AM OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	NTRY CLASS SUB-CLASS TRANSLAT
AM OTHER DOCUMENTS (Including Author, Tit Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," Chemical Communications, Vol. 24, p (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communications Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	
Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," <i>Chemical Communications</i> , Vol. 24, p. (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," <i>Chemical Communications</i> , Vol. 24, p. (2000).	
Yang, S.M. and G.A. Ozin, "Opal chips: vector wafers," <i>Chemical Communications</i> , Vol. 24, p. (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," <i>Chemical Communi</i> Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	
AN6 wafers," Chemical Communications, Vol. 24, p. (2000). Yi, D.K. and DY. Kim, "Polymer nanosphere polymeric nanostructure," Chemical Communications (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	itle, Date, Pertinent Pages, etc.)
AO6 polymeric nanostructure," Chemical Communic Chemistry (published on web March 2003). Yi, GR. and SM. Yang, "Microstructures of	orial growth of colloidal crystal patterns inside silicon pp. 2507-2509, The Royal Society of Chemistry
Yi, GR. and SM. Yang, "Microstructures of Emulsion Templates," Chemistry of Materials,	e lithography: fabrication of an ordered trigonal nications, Vol. 8, pp. 982-983, The Royal Society of
Chemistry (1999).	
AQ	f Porous Silica Prepared in Aqueous and Nonaqueo s, Vol. 11, No. 9, pp. 2322-2325, The Royal Society
AR	f Porous Silica Prepared in Aqueous and Nonaqueos, Vol. 11, No. 9, pp. 2322-2325, The Royal Society
EXAMINER	f Porous Silica Prepared in Aqueous and Nonaqueo s, Vol. 11, No. 9, pp. 2322-2325, The Royal Society
EXAMINER: Initial if reference considered, whether or not citation is in conformance and not considered. Include copy of this form with next communication to Applicant. 346764 1.DOC	DATE CONSIDERED 9/25/05